

1. A method of trading long and short inventory positions in securities for a plurality of participants, comprising:
 - allowing each of the participants to enter information via a graphical user interface defining restrictions on trading long and short positions in securities of the participant and information defining substitution parameters for adjusting the long and short positions of the participant;
 - allowing each of the participants to upload position file data on net long and net short positions of the participant;
 - allowing each of the participants to upload trades file data on repo and reverse repo security transactions of the participant for adjusting the long and short positions of the participant;
 - adjusting the long and short positions of each participant based on the substitution parameters and the trades file data of the participant and outputting a position file with first round adjustments for the participant;
 - adjusting each participant's long and short positions with first round adjustments based on the security restrictions of the participant and outputting a position file with second round adjustments; and
 - utilizing each participant's position file with second round adjustments, identifying short covering and long funding matches for the participant, generating corresponding repo and reverse trades for the participant, and outputting an executed trades file of the participant's trades by a matching engine.
2. The method of claim 1, wherein allowing each of the participants to enter information defining the restrictions further comprises allowing each of the participants to enter information establishing filters for at least one of restricting and excluding predetermined long and short positions in the securities of the participant.
3. The method of claim 1, wherein allowing each of the participants to enter information defining the restrictions further comprises allowing each of the

participants to enter information for establishing a list of securities for lending and borrowing for the participant.

4. The method of claim 1, wherein allowing each of the participants to enter information defining the restrictions further comprises allowing each of the participants to enter information for establishing one of a lending and borrowing limit on an individual security basis for the participant.

5. The method of claim 1, wherein allowing each of the participants to enter information defining the restrictions further comprises allowing each of the participants to enter information for defining restrictions on trading counterparties for the participant.

6. The method of claim 1, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises adjusting each long position of the participant available for lending.

7. The method of claim 1, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises, for each long position of the participant available for lending, determining adjustments for day-to-day reverses and reverses with rights of substitution.

8. The method of claim 7, wherein determining the adjustment for day-to-day reverses further comprises, for each long position of the participant available for lending:

(a) calculating a sum “*t*” of day-to day-reverses,

(b) obtaining a pre-defined percentage value factor “*u*” from the substitution parameters for an asset class and transaction type for the long position available for lending , and

(c) multiplying the sum *t* by the factor *u* to obtain the adjustment for day-to-day reverses “*w*.”

9. The method of claim 8, wherein determining the adjustment for reverses with rights of substitution further comprises, for each long position of the participant available for lending:

(a) calculating a sum “ x ” of the reverses,

(b) obtaining a pre-defined percentage value factor “ y ” from the substitution parameters for the asset class and transaction type combination for the long position available for lending, and

(c) multiplying the sum x by the factor y to obtain the adjustment for reverses with rights of substitution “ z .”

10. The method of claim 9, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises adjusting the amount available for lending to be the greater of zero and an original long position of the participant minus the adjustment for day-to-day reverses w minus the adjustment for reverses with rights of substitution z .

11. The method of claim 1, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises adjusting each short position of the participant available for borrowing.

12. The method of claim 1, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises, for each short position of the participant available for borrowing, determining adjustments for day-to-day repos, and for each short position of the participant available for lending, determining adjustments for repos with rights of substitution.

13. The method of claim 12, wherein determining the adjustment for day-to-day repos further comprises, for each short position of the participant available for borrowing:

(a) calculating a sum “ e ” of the day-to-day repos,

(b) obtaining a pre-defined percentage value factor “*f*” from the substitution parameters for an applicable asset class and transaction type for the short position available for borrowing, and

(c) multiplying the sum *e* by the a factor *f* to obtain the adjustment for day-to-day repos “*g*.”

14. The method of claim 13, wherein determining the adjustment for repos with rights of substitution further comprises, for each short position of the participant available for lending:

(a) calculating a sum “*j*” of repos,

(b) obtaining a pre-defined percentage value factor “*k*” from the substitution parameters file for an asset class and transaction type for the short term position available for lending, and

(c) multiplying the sum *j* by the factor *k* to obtain the adjustment for repos with right of substitution “*m*.”

15. The method of claim 14, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises adjusting the amount available for borrowing to be the greater of zero and an original short position of the participant minus the adjustment for day-to-day repos *g* minus the adjustment for repos with right of substitution *m*, wherein it is assumed that the quantities are represented as positive numbers.

16. The method of claim 1, wherein adjusting each participant’s long and short positions based on the security restrictions further comprises utilizing the participant’s position file and the security restrictions, adjusting each long position of the participant available for lending.

17. The method of claim 1, wherein adjusting each participant’s long and short positions based on the security restrictions further comprises, utilizing the participant’s position file with first round adjustments and the security restrictions for

each long position of the participant available for lending, determining adjustments for percentage limitations for the long positions.

18. The method of claim 17, wherein determining the adjustments for percentage limitations for the long positions further comprises, for each long position of the participant available for lending:

(a) multiplying the long position by the percentage allowed to lend to obtain the adjustment for percentage limitation “*n*,” and

(b) adjusting the long position to equal the lesser of the adjustment for percentage limitation *n* and a long quantity from the position file with first round adjustments.

19. The method of claim 18, wherein adjusting each participant’s long and short positions based on the security restrictions further comprises, utilizing the participant’s position file with first round adjustments and the security restrictions, for each participant long position available for lending, determining an adjustment for fixed quantity limitations by adjusting the long position available for lending to equal the lesser of a fixed quantity established in the security restrictions and a long quantity from the position file with first round adjustments.

20. The method of claim 1, wherein identifying the short covering and long funding matches and generating corresponding repo and reverse trades for each participant further comprises, for each security, calculating an aggregate value of the long positions and the short positions for all of the participants, and if the aggregate value of the short positions for all of the participants is greater than the aggregate value of the long positions for all of the participants:

(a) for each long participant, booking a repo with a trade quantity equal to a long position quantity of the participant; and

(b) for each short participant, booking a reverse with a trade quantity equal to a short position quantity of the participant multiplied by a long ratio calculated as the aggregate value of the long positions divided by the aggregate value of the short positions for the security.

21. The method of claim 1, wherein adjusting each participant's long and short positions based on the security restrictions further comprises utilizing the participant's position file and the security restrictions to adjust each short position of the participant available for borrowing.
22. The method of claim 1, wherein adjusting each participant's long and short positions based on the security restrictions further comprises, utilizing the participant's position file with first round adjustments and the security restrictions for each short position of the participant available for borrowing, determining adjustments for percentage limitations for the short positions.
23. The method of claim 22, wherein determining the adjustments for percentage limitations for the short positions further comprises, for each short position of the participant available for borrowing:
 - (a) multiplying the short position by a pre-determined percentage allowed to borrow to obtain the adjustment for percentage limitation "p", and
 - (b) adjusting the short position to equal the lesser of the adjustment for percentage limitation p and a short quantity from the position file with first round adjustments, wherein it is assumed that the quantities are represented as positive numbers.
24. The method of claim 23, wherein adjusting each participant's long and short positions based on the security restrictions further comprises, utilizing the participant's position file with first round adjustments and the security restrictions, for each participant short position available for borrowing, determining an adjustment for fixed quantity limitations by adjusting the short position available for borrowing to equal the lesser of a fixed quantity established in the security restrictions and a short quantity from the position file with first round adjustments, wherein it is assumed that the quantities are represented as positive numbers.
25. The method of claim 1, wherein identifying the short covering and long funding matches and generating corresponding repo and reverse trades for each participant further comprises, for each security, calculating an aggregate value of the

long positions and the short positions for all of the participants, and if aggregate value of the short positions for all of the participants is less than or equal to the aggregate value of the long positions for all of the participants:

(a) for each short participant, booking a reverse with a trade quantity equal to the participant's short position quantity; and

(b) for each long participant, booking a repo with a trade quantity equal to long position quantity of the participant multiplied by a short ratio calculated as the aggregate value of the short positions divided by the aggregate value of the long positions for the security.

26. The method of claim 1, further comprising completing a cycle and outputting of matched trade information to each participant daily prior to start of a business day.

27. The method of claim 1, further comprising submitting resultant trade transactions for GSCC.

28. A system for trading long and short inventory positions in securities for a plurality of participants, comprising:

a data store adapted for receiving information entered by each of the participants via a graphical user interface defining restrictions on trading long and short positions in securities of the participant and information defining substitution parameters for adjusting the long and short positions of the participant;

the data store being further adapted to receive via an interface an upload of position file data on net long and net short positions of each participant and an upload of trades file data on repo and reverse repo security transactions of each participant for adjusting the long and short positions of the participant;

a server coupled to the data store and pre-programmed for adjusting the long and short positions of each participant based on the substitution parameters and the trades file data of the participant and outputting a position file with first round adjustments for the participant;

the server being further pre-programmed for adjusting each participant's long and short positions with first round adjustments based on the security restrictions of the participant and outputting a position file with second round adjustments; and

a matching engine pre-programmed for, utilizing each participant's position file with second round adjustments, identifying short covering and long funding matches for the participant, generating corresponding repo and reverse trades for the participant, and outputting an executed trades file of the participant's trades.

29. A method of trading baskets of serial overnight trades, each of which is treated as an independent overnight repo / reverse trade for financial reporting purposes, with corresponding notional amount, comprising:

receiving a feed of data regarding basket trades from internal systems of each of a plurality of participants;

comparing the basket trade data based on predefined transaction criteria to determine that both sides of each basket trade have been received and are matched;

if each basket trade is matched, canceling each basket trade and creating in its place a series of overnight trades corresponding to each basket trade; and

sending details of the cancellation and new overnight trades to the originating participants

30. The method of claim 29, wherein canceling each basket trade and creating in its place the series of overnight trades further comprises canceling the basket trade for n days and creating a series of new overnight trades having an overnight trade and $n - 1$ forward overnight trades for each of two participants that submitted a matched term trade.

31. The method of claim 29, wherein canceling each basket trade and creating in its place the series of overnight trades further comprises canceling each basket trade and creating in its place one overnight trade, one forward overnight trade and one forward term trade.

32. The method of claim 29, further comprising submitting resultant trades for GSCC novation.
33. The method of claim 29, further comprising submitting resultant current overnight and one-day forward overnight trades for GSCC novation.
34. The method of claim 29, further comprising utilizing rate curvature in computing rates for resultant trades, such that the trades have market representative rates.
35. The method of claim 29, further comprising paying interest daily in connection with each maturing overnight trade.
36. The method of claim 29, further comprising splitting the trade using rate curvature to a daily interest rate for each overnight trade through a series of interpolated daily rates derived from a market curve current at the time of trade conversion, which is derived as follows:
 - i) periodically, extracting yield curve points from an available market source;
 - ii) performing straight-line interpolation for date points that are not given;
 - iii) comparing a rate on the trade with a rate on the yield curve for a corresponding duration and calculating the spread; and
 - iv) adding the spread is added to each yield curve point extracted from the market source, and using the resultant values with their respective durations and the rate on the trade with its corresponding duration to determine forward rates.
37. The method of claim 29, wherein the data feed is received via at least one of direct entry and a batch process using File Transfer Protocol.
38. The method of claim 29, further comprising propagating substitutions, cancellations, and corrections to all trades in a series.

39. The method of claim 29, further comprising charging participants a fee.
40. A system for trading baskets of serial overnight trades, each of which is treated as an independent overnight repo / reverse trade for financial reporting purposes, with corresponding notional amount, comprising:
 - a server pre-programmed for receiving a feed of data regarding basket trades from internal systems of each of a plurality of participants;
 - comparing the basket trade data based on predefined transaction criteria to determine that both sides of each basket trade have been received and are matched;
 - if each basket trade is matched, canceling each basket trade and creating in its place a series of overnight trades corresponding to each basket trade;
 - and sending details of the cancellation and new overnight trades to the originating participants.
41. A method of trading long and short inventory positions in securities for a plurality of participants, comprising:
 - allowing each participant to submit position data on long and short positions of the participant; and
 - utilizing each participant's position data, running a batch process to identifying short covering and long funding matches for the participant and generating corresponding repo and reverse repo trades for the participant.
42. The method of claim 41, further comprising allowing each of the participants to enter information via a graphical user interface defining restrictions on the trading long and short positions in securities of the participant and information defining substitution parameters for adjusting the long and short positions of the participant;
43. The method of claim 41, further comprising allowing each of the participants to upload trades file data on repo and reverse repo security transactions of the participant for adjusting the long and short positions of the participant.

44. The method of claim 41, further comprising adjusting the long and short positions of each participant based on substitution parameters and trades file data of the participant.
45. The method of claim 41, further comprising adjusting each participant's long and short positions based on security restrictions of the participant.
46. The method of claim 41, further comprising utilizing each participant's position file, identifying short covering and long funding matches for the participant and generating corresponding repo and reverse trades for the participant.
47. The method of claim 41, further comprising allowing each of the participants to enter information establishing filters for at least one of restricting and excluding predetermined long and short positions in the securities of the participant.
48. The method of claim 41, further comprising allowing each of the participants to enter information for establishing a list of securities for lending and borrowing for the participant.
49. The method of claim 41, further comprising allowing each of the participants to enter information for establishing one of a lending and borrowing limit on an individual security basis for the participant.
50. The method of claim 41, further comprising allowing each of the participants to enter information for defining restrictions on trading counterparties for the participant.
51. The method of claim 41, further comprising adjusting each long position of the participant available for lending for each participant based on the substitution parameters and trades file data of the participant.
52. The method of claim 41, further comprising, for each long position of the participant available for lending, determining adjustments for day-to-day reverses and reverses with rights of substitution.

53. The method of claim 52, further comprising determining the adjustment for day-to-day reverses for each long position of the participant available for lending according to the following formula:

(a) calculating a sum “ t ” of day-to day-reverses,

(b) obtaining a pre-defined percentage value factor “ u ” from the substitution parameters for an asset class and transaction type for the long position available for lending, and

(c) multiplying the sum t by the factor u to obtain the adjustment for day-to-day reverses “ w . ”

54. The method of claim 41, further comprising determining an adjustment for reverses with rights of substitution for each long position of the participant available for lending according to the following formula:

(a) calculating a sum “ x ” of the reverses,

(b) obtaining a pre-defined percentage value factor “ y ” from the substitution parameters for the asset class and transaction type combination for the long position available for lending, and

(c) multiplying the sum x by the factor y to obtain the adjustment for reverses with rights of substitution “ z . ”

55. The method of claim 54, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises adjusting the amount available for lending to be the greater of zero and an original long position of the participant minus the adjustment for day-to-day reverses w minus the adjustment for reverses with rights of substitution z .

56. The method of claim 41, further comprising adjusting each short position of the participant available for borrowing based on the substitution parameters and trades file data of the participant.

57. The method of claim 41, further comprising, for each short position of the participant available for borrowing, determining adjustments for day-to-day repos, and for each short position of the participant available for lending, determining adjustments for repos with rights of substitution.

58. The method of claim 57, wherein determining the adjustment for day-to-day repos further comprises, for each short position of the participant available for borrowing:

- (a) calculating a sum “*e*” of the day-to-day repos,
- (b) obtaining a pre-defined percentage value factor “*f*” from the substitution parameters for an applicable asset class and transaction type for the short position available for borrowing, and
- (c) multiplying the sum *e* by the a factor *f* to obtain the adjustment for day-to-day repos “*g*.”

59. The method of claim 58, wherein determining the adjustment for repos with rights of substitution further comprises, for each short position of the participant available for lending:

- (a) calculating a sum “*j*” of repos,
- (b) obtaining a pre-defined percentage value factor “*k*” from the substitution parameters file for an asset class and transaction type for the short term position available for lending, and
- (c) multiplying the sum *j* by the factor *k* to obtain the adjustment for repos with right of substitution “*m*.”

60. The method of claim 59, wherein adjusting the long and short positions for each participant based on the substitution parameters and trades file data of the participant further comprises adjusting the amount available for borrowing to be the greater of zero and an original short position of the participant minus the adjustment

for day-to-day repos g minus the adjustment for repos with right of substitution m , wherein it is assumed that the quantities are represented as positive numbers.

61. The method of claim 41, further comprising, utilizing position file and the security restrictions of the participant, adjusting each long position of the participant available for lending.

62. The method of claim 41, further comprising, utilizing the participant's position data and security restrictions for each long position of the participant available for lending, determining adjustments for percentage limitations for the long positions.

63. The method of claim 62, wherein determining the adjustments for percentage limitations for the long positions further comprises, for each long position of the participant available for lending:

(a) multiplying the long position by the percentage allowed to lend to obtain the adjustment for percentage limitation " n ," and

(b) adjusting the long position to equal the lesser of the adjustment for percentage limitation n and a long quantity from the position file with first round adjustments.

64. The method of claim 63, wherein adjusting each participant's long and short positions based on the security restrictions further comprises, utilizing the participant's position file with first round adjustments and the security restrictions, for each participant long position available for lending, determining an adjustment for fixed quantity limitations by adjusting the long position available for lending to equal the lesser of a fixed quantity established in the security restrictions and a long quantity from the position file with first round adjustments.

65. The method of claim 41, further comprising, for each security, calculating an aggregate value of the long positions and the short positions for all of the participants, and if the aggregate value of the short positions for all of the participants is greater than the aggregate value of the long positions for all of the participants:

(a) for each long participant, booking a repo with a trade quantity equal to a long position quantity of the participant; and

(b) for each short participant, booking a reverse with a trade quantity equal to a short position quantity of the participant multiplied by a long ratio calculated as the aggregate value of the long positions divided by the aggregate value of the short positions for the security.

66. The method of claim 41, further comprising, utilizing a position file and security restrictions of each participant to adjust each short position of the participant available for borrowing.

67. The method of claim 41, further comprising, utilizing a position file and the security restrictions for each short position of each participant available for borrowing, determining adjustments for percentage limitations for the short positions of the participant.

68. The method of claim 67, wherein determining the adjustments for percentage limitations for the short positions further comprises, for each short position of the participant available for borrowing:

(a) multiplying the short position by a pre-determined percentage allowed to borrow to obtain the adjustment for percentage limitation “ p ”, and

(b) adjusting the short position to equal the lesser of the adjustment for percentage limitation p and a short quantity from the position file with first round adjustments, wherein it is assumed that the quantities are represented as positive numbers.

69. The method of claim 23 41, further comprising, utilizing a position file and security restrictions of each participant, for each participant short position available for borrowing, determining an adjustment for fixed quantity limitations by adjusting the short position available for borrowing to equal the lesser of a fixed quantity established in the security restrictions and a short quantity from the position file with first round adjustments, wherein it is assumed that the quantities are represented as positive numbers.

70. The method of 41, further comprising, for each security, calculating an aggregate value of the long positions and the short positions for all of the participants, and if aggregate value of the short positions for all of the participants is less than or equal to the aggregate value of the long positions for all of the participants:

(a) for each short participant, booking a reverse with a trade quantity equal to the participant's short position quantity; and

(b) for each long participant, booking a repo with a trade quantity equal to long position quantity of the participant multiplied by a short ratio calculated as the aggregate value of the short positions divided by the aggregate value of the long positions for the security.

71. The method of claim 41, further comprising completing a cycle and outputting of matched trade information to each participant daily prior to start of a business day.

72. The method of claim 41, further comprising submitting resultant trade transactions for GSCC.